TELESTO
SOLUTIONS • INCORPORATED

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Fort Collins, Colorado 80528
970-484-7704 / 970-484-7789 (FAX)

TECHNICAL MEMORANDUM

DATE: October 17, 2008 **Telesto #** 222100

TO: ICP

FROM: Telesto Solutions, Inc.

SUBJECT: Cost Estimate for dust control structures

1.0 PURPOSE

The Idaho Department of Environmental Quality (DEQ) has requested an economic analysis of additional measures that could be taken to reduce arsenic compound emissions relating to dust emissions from the Idaho Cobalt Project (ICP). Two dust emission areas are the tram unloading station and the Tailings and Waste Storage Facility (TWSF). It would be possible to reduce emissions from these locations by enclosing the activities with a permanent structure (upper tram station) and semi-portable structures (TWSF). This memorandum documents the assumptions used to develop this control scenario and the cost estimates for each control.

2.0 APPROACH AND ASSUMPTIONS

The following sub-sections outline the criteria and assumptions used for the cost estimate for construction for enclosure of both the TWSF and Tram Unloading Station. The life-of-mine used in all calculations is 11 years.

2.1 TWSF

The TWSF is an open storage facility that will be the permanent disposal location for tailings and waste rock generated at the ICP. The current projection of tailings generated during life-of-mine operation that will need to be handled at the TWSF is 1.35 million tons

resulting in 10,200 tons of tailing generated per month. At an estimated dry density of 108.6 pounds per cubic foot (pcf), the volume of tailing generated in one month that will need to be enclosed is 7,000 cubic yards. The current projection of waste rock that will need to be handled at the TWSF is 720,200 tons, resulting in 5,460 tons of waste rock generated per month. At an estimated dry density of 120 pcf, the volume of waste rock generated in one month that will need to be enclosed is 3,300 cubic yards.

Particulate matter is generated from two sources at the TWSF; wind erosion from the static portions of the pile, and vehicle activity associated with placement of the tailings and waste rock. The vehicle activity (truck transport and dumping, dozer spreading, and compaction) is the larger of the two sources. The control approach would be to provide a semi-portable structure that would enclose the placement activity. The structure would be ventilated through a baghouse. The activity cycle would be to construct the temporary structure, place material inside the structure until it is impractical to place any more material inside the structure, then move the structure to a new location and begin the cycle anew.

This plan would require two structures, one for active placement and another that is being prepared for active placement. It is estimate that a newly prepared structure would be needed every two weeks. The proposed structures are Sprung type structures, chosen for their characteristics of rapid assembly and disassembly. The proposed structures would measure 120 by 200 feet.

2.2 Tram Unloading Station

The approach to controlling dust emissions at the tram unloading station would be to construct a steel building that would enclose the tram tower and the associated waste rock and ore stockpiles. To enclose these areas, this building would have a footprint of 130 feet by 275 feet, totaling 35,750 square feet, with an eave height of 80 feet. The building would

be permanently affixed to a concrete foundation and would have two 20 foot by 20 foot openings. The assumption was made that the structure would be pre-engineered and manufactured off-site and assembled on-site.

3.0 CALCULATIONS

3.1 TWSF

Telesto contacted Sprung with the design criteria outlined in section 2.1. Standard designs and equipment listings necessary to assemble their manufactured structures are included in Attachment A. By limiting the width of the building to less than 130 feet, the building can founded with a series of earth anchors. The earth anchors are installed with a 90-lb pneumatic pavement breaker. Sprung provided an estimate of $30 per square foot to manufacture a basic structure. Due to the rigorous nature of the activities that will take place inside the structure and the consistent assembly and disassembly of the buildings, a yearly maintenance and component replacement cost of 30% of manufacturing cost is included in the estimate.

Based on the tailings cycle time, and the assembly and disassembly estimates from Sprung, an 11-person labor crew would be needed full-time for the life of the mine. Labor cost was taken from R.S Means 2008 Heavy Construction Cost Data for a laborer ($30.25) with no geographic correction.

The equipment list provided by Sprung (Attachment 1) was researched on equipmentwatch.com. This subscription based service provides hourly cost associated with the initial procurement and maintenance of heavy equipment.

The dust collection system that will be used within these facilities is assumed to be the same system specified for the crusher. The equipment cost was increased by a factor of 2 to account for the infrastructure necessary for operation.

The estimated costs include a contingency of 50%, which is consistent with the level of definition for this project.

The total cost to ICP over the life of the mine to for this approach will be approximately $33.1 million. The costs are summarized in Table 1; additional detail is summarized in Attachment 2.

Table 1 Cost for Two Portable, Temporary Structures at the TWSF

	Capital Cost	Annual	Life-of-Mine Cost
Manufacture	$1,440,000		$1,440,000
Maintenance		$432,000	$4,752,000
Equipment		$451,880	$4,970,680
Baghouse	$215,666		$215,666
Labor		$971,630	$10,687,930
Subtotal	$1,655,666	$1,855,510	$22,066,276
Contingency	$827,833	$927,755	$11,033,138
Total	**$2,483,499**	**$2,783,265**	**$33,099,414**

3.2 Tram Unloading Station

Telesto contacted Olympia Steel Buildings (Olympia) out of McKees Rocks, PA, to assist with the cost of the steel structure at the tram unloading station. Olympia provided an estimate of $32 per square foot to manufacture and deliver a pre-engineered structure to the site. Olympia estimated an additional $11 per square foot would be required to erect the structure, bringing the total cost of manufacturing and erection of the building to $43 per square foot.

Preliminary calculations assume a foundation design load with an appropriate factor of safety (1.7*Live + 1.4*Dead) of 200,000 pounds. A snow load of 70 pounds per square

foot (psf) was used in the analysis. The soil bearing capacity was estimated to be 3,000 pounds per square foot (3 KSF). With these design criteria, R.S Means 2008 Heavy Construction Cost Data was consulted to develop unit costs to found the steel building.

The steel structure was assumed to be founded on spread footings spaced on 20 foot centers excavated to 5 feet below ground surface. Steel reinforcement was assumed to connect pile caps and grade beams, bringing the foundation to the surface. The steel building would connect to the foundation at the pile caps with six 1-inch anchor bolts 18-inches long.

A design cost of 10% of the manufacturing and construction cost was added to the total cost; a 50% contingency was added to the total cost as well.

The dust collection system that will be used within this facility is assumed to be the same system specified for the crusher. The equipment cost was increased by a factor of 2 to account for the infrastructure necessary for operation.

The total cost associated with enclosing the Tram Unloading Station with a steel structure is $3.0 million. Costs are summarized in Table 2; additional detail is summarized in Attachment 3.

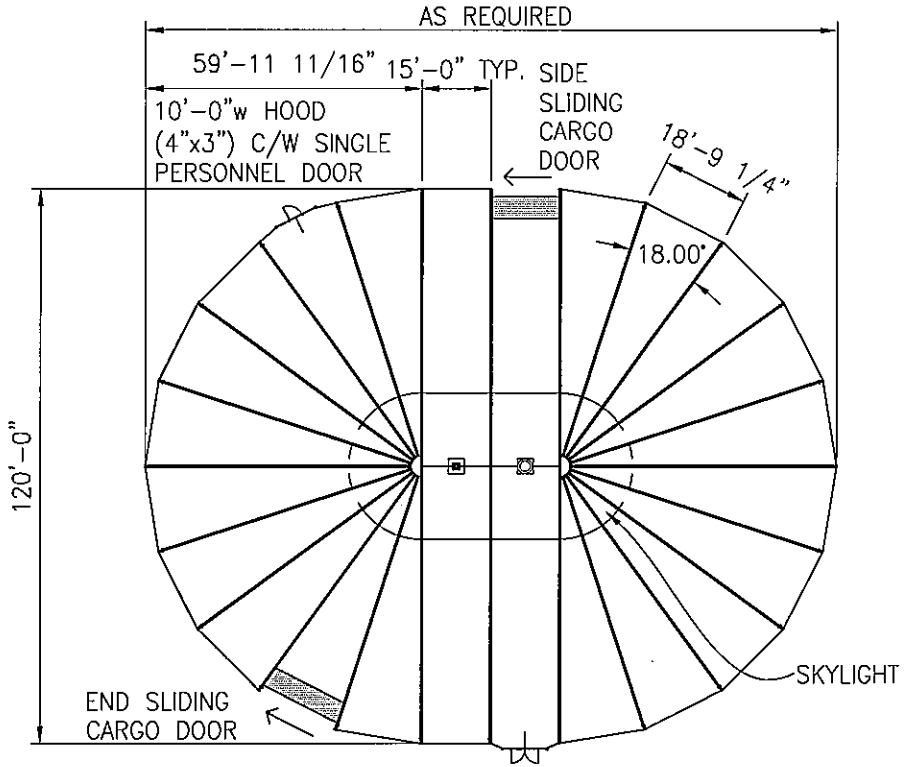
Table 2 Cost for Steel Building to Cover Tram Unloading Station

Item	Initial
Foundation	$169,171
Manufacture and Construction	$1,537,250
Design	$170,642
Baghouse	$215,666
Subtotal	**$2,092,730**
Contingency	$938,532
Total	**$3,031,261**

4.0 SUMMARY

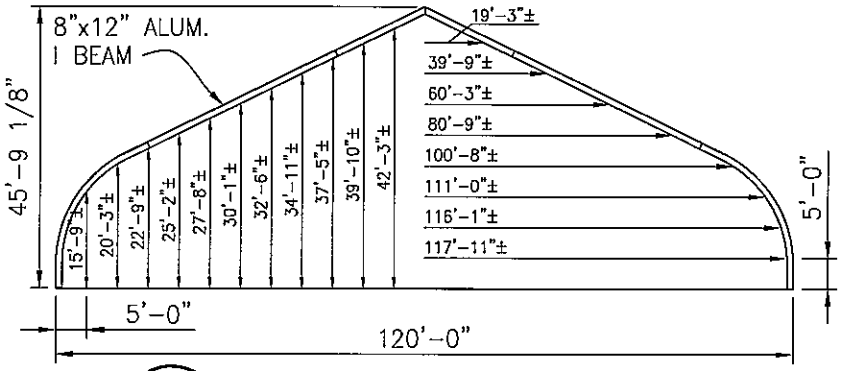
The total cost for enclosing the TWSF and the Tram Unloading Station for control of dust emission is estimated to be in excess of $36.1 million.

ATTACHMENT 1
SPRUNG INSTANT
STRUCTURES DOCUMENTATION

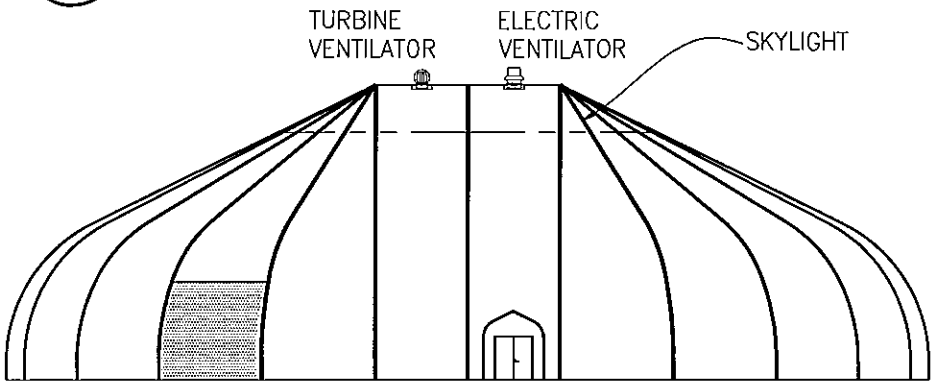


PLAN VIEW
1"=40'-0"

THE FOLLOWING DOORS ARE AVAILABLE AT EXTRA CHARGE:
-SINGLE PERSONNEL DOOR 3'-0"w x 7'-0"h (C/W 10'-0" HOOD)
-DOUBLE PERSONNEL DOOR 6'-0"w x 7'-0"h (C/W 10'-0" HOOD)
-SIDE SLIDING CARGO DOOR 14'-4"w x 14'-6"h
-END SLIDING CARGO DOOR TOP 16'-9"w, BASE 17'-9"w x 14'-6"h
-DOUBLE PANEL ROLLING DOOR TOP 5'-7"w, BASE 35'-9"w x 40'-1"h (SEE DPRD-120)
-TRIPLE PANEL ROLLING DOOR TOP 8'-3"w, BASE 52'-11"w x 40'-1"h (SEE TPRD-120)



SECTION 120'-0" STRUCTURE
1"=30'-0"



ELEVATION
1"=30'-0"

SIGNATURE SERIES

sprung

SIGNATURE SERIES
120'-0" WIDE
STRUCTURE

DATE 08/23/2006

SCALE AS NOTED

DRAWING # S-120 IMPERIAL

innovation | versatility | reliability

Recommended Manpower & Equipment
for the Erection of a Sprung Instant Structure
100' in Width

Sprung will supply a Technical Consultant on site to provide information about structure assembly and erection and will supply hand tools for the Buyer's/Lessee's use, at no charge. Sprung's Technical Consultant is not authorized to perform any other services. The Buyer/Lessee alone is responsible for supervision of and safety compliance in structure location, assembly and erection.

The Lessor's Technical Consultant is supplied for an 8 hour day, 5 days per week. Any request for overtime must be agreed to in writing by Buyer/Lessee prior to overtime taking place and will be charged to the Buyer/Lessee at the rate of $20.00 per hour.

When pins or earth anchors are required underground utilities must be located and earth anchors installed prior to the Technical Consultant arriving. Failure to do so could delay your construction as membrane cannot be safely installed without the proper anchorage in place. For all technical information regarding the installation of the earth anchors please visit http://www.earthanchor.com.

We also highly recommend that you supply a site supervisor with construction experience to direct your labor force thereby ensuring your project is completed according to your schedule.

Manpower 11 workers

Equipment
1 Scissor Lift /w 40' high working deck or scaffolding
1 Man Lift /w 60' boom or scaffolding
1 Man Lift /w 80' boom or scaffolding
Power supply
Crane[1] /w 100' stick & 35' Spreader Bar
Jackhammer (90 lb)

Forklift 8000 lb (to offload truck & stage materials)

[1] The crane must be capable of lifting 3870 lbs (1760 kgs) from a distance of 60'. However, this weight refers only to the arch. The spreader bar and rigging will add a significant amount of weight as well. Consult your crane supplier to determine the exact crane size required.

ATTACHMENT 2
COST TABLES FOR
SPRUNG INSTANT STRUCTURE

Attachment 2 TWSF Costs

Table A-2.1 Manufacture

Sprung Structure	
Length	200
Width	120
Square Feet	24,000
Estimated Square foot cost, to manufacture*	$30
Total manufacture cost for 2 structures	$1,440,000
*Estimate from Sprung representative (phone conversation on 10.7.08)	

Tailings Generated				
1,347,795	tons	Density	108.6	pcf
2,695,590,000	lbs			
24,821,271	cubic feet	total in 11 year mine life		
2,256,479	cubic feet	total in 1 year		
188,040	cubic feet	Tailing generated in 1 month		
3.92	height of tailings in 1 building			

Waste Rock Generated				
720,200	tons	Density	120	pcf
1,440,400,000	lbs			
12,003,333	cubic feet	total 11 year mine life		
1,091,212	cubic feet	total in 1 year		
90,934	cubic feet	Waste Rock generated in 1 month		
3.79	height of waste rock in 1 building			
7.71	**Total Height of Tailings and Waste Rock in 1 building**			

Table A-2.2 Construction Requirements

Phone conversation on 10.7.08 with Gerald Heath of Sprung; estimate 10 days to construct and 0.5 of assembly time to dismantle bringing the total to 15 days per month for 1 shed; 30 days for both. For calculation purposes, this crew would be busy full time for 11 years. Sprung also provided the type of equipment necessary to assemble this size of structure, included below.

Manpower	11 workers	$2,662	day*
		$39,930	15 days
		$79,860	30 days
		$971,630	1 year
		$10,687,930	11 years
Equipment			
	1 scissor lift		
	1 man lift 60' boom		
	1 man lift 80' boom		
	Power supply		
	Crane		
	Jackhammer		

*Assumes a laborer rate of $30.25/hour from RS Means

The costs listed below were obtained from equipmentwatch.com. No adjustments were made to associated costs.

	Hourly Operating Cost	# of hours	Annual Cost	LOM cost (11 years)
Crane	$107.08	2000	$214,160	$2,355,760
JLG 600AJ	$37.79	2000	$75,580	$831,380
JLG 800A	$48.53	2000	$97,060	$1,067,660
Scissor Lift	$22.93	2000	$45,860	$504,460
Jackhammer	$0.99	2000	$1,980	$21,780
Compressor	$8.62	2000	$17,240	$189,640
Total	**$225.94**		**$451,880**	**$4,970,680**

Table A-2.3 Total

	Capital Cost	Annual	Life-of-Mine Cost
Manufacture	$1,440,000		$1,440,000
Maintenance		$432,000	$4,752,000
Equipment		$451,880	$4,970,680
Baghouse	$215,666		$215,666
Labor		$971,630	$10,687,930
Subtotal	$1,655,666	$1,855,510	$22,066,276
Contingency	$827,833	$927,755	$11,033,138
Total	**$2,483,499**	**$2,783,265**	**$33,099,414**

Maintenance assumes a 30% per year of manufacturing cost to maintain building

ATTACHMENT 3
COST TABLES FOR ENCLOSURE OF TRAM UNLOADING STATION

Attachment 3 Tram Unloading Station Costs

Table A-3.1 Load

Dimensions	
Length	275 ft
Width	130 ft
Area	35,750 sq ft
Linear Feet	810

Load Calculation						
Live	**psf**	**0.5 Span (ft)**		**FS**		
Snow	70	65	4550	1.7	**9945**	
Roof	20	65	1300			
Dead	**psf**	**0.5 Span (ft)**		**FS**		
Sheet Metal	2.5	65	162.5	1.4	**455**	
Structural Metal	2.5	65	162.5			
				Load per linear foot	**10,400**	plf
				Spacing of spread footers	20	lf
				Total Load	**208,000**	pounds

Table A-3.2 Foundation

Item	Means ID	Cost	Unit	Amount	Total Cost
Spread Footer	A1010 210 7650	$1,320	each	41	$54,120
Grade Beam	A1020 210 2300	$119	lf	810	$96,390
Pile Caps	03 30 53 40 5900	$295	cy	50	$14,750
Anchor Bolts	03 15 05.02 0850	$15.90	Each	246	$3,911
					$169,171

*Costs obtained from R.S. Means Heavy Construction Cost Data 2008

Table A-3.3 Building

Length	275	ft
Width	130	ft
Area	35,750	sq ft
Cost for building*	$43	
Total	$1,537,250	

*Cost includes manufacture ($32 sq ft) and erection ($11 sq ft). These costs were provided by Paul Bluthe of Olympia Steel Buildings.

Table A-3.4 Total

Item	Initial
Foundation	$169,171
Manufacture and Construction	$1,537,250
Design	$170,642
Baghouse	$215,666
Subtotal	**$2,092,730**
Contingency	$938,532
Total	**$3,031,261**

Appendix E

Air Quality Modeling Support Documents

Attachment 1

Modeling Protocol Approval Letter

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 NORTH HILTON, BOISE, ID 83706 · (208) 373-0502

C. L. "BUTCH" OTTER, GOVERNOR
TONI HARDESTY, DIRECTOR

April 7, 2008

Chris Johnson
CJ Environmental

RE: Modeling Protocol for the Idaho Cobalt Project, Formation Capital Corporation, U.S., Facility Located near Salmon, Idaho

Dear Chris:

DEQ received your dispersion modeling protocol on March 27, 2008. The modeling protocol was submitted on behalf of the Formation Capital Corporation, U.S., located in Salmon, Idaho, for the proposed Idaho Cobalt Project, located approximately 25 miles west of Salmon, Idaho. The modeling protocol proposes methods and data for use in the ambient impact analyses to support a Permit to Construct application for a proposed Greenfield facility consisting of an underground cobalt and copper mining operation and an associated milling plant.

The modeling protocol has been reviewed and DEQ has the following comments:

- Comment 1: The application should provide documentation and justification for stack parameters used in the modeling analyses, clearly showing how stack gas temperatures and flow rates were estimated. Include calculations and assumptions. In most instances, applicants should use typical parameters, not maximum temperatures and flow rates.

  If information was provided by a manufacturer or engineering design firm, include a copy of the documentation they provided as the basis for the design parameters. For area and volume sources include all assumptions and calculations used to generate the model inputs.

- Comment 2: The proposed receptor grid of receptors appears reasonable. However, it is the applicant's responsibility to use a sufficiently tight receptor network such that the maximum modeled concentration is reasonably resolved. If DEQ conducts verification modeling analyses with a tighter receptor grid and compliance with standards is no longer demonstrated, the permit will be denied.

- Comment 3: Provide a complete, scaled facility plot plan that includes the locations of all emissions sources and buildings with the permit application. All building dimensions must be included either in the plot plan or be cross-referenced in a table. This document should be independent of the modeling input file and will be used to verify source and structure locations.

- Comment 4: Provide a detailed description of the determination of the ambient air boundary. The facility must prevent public access inside the ambient air boundary using methods described in the *Idaho Air Modeling Guideline*. It is not clear whether the Formation Capital Corporation, U.S., can legally prohibit public access to areas within the ambient air boundary, as described in the modeling protocol. Stream crossings, infrequency of hunting and camping uses, and lack of vistas on public lands do not adequately support legal control of public access. DEQ must evaluate ambient air boundaries on the basis of legal control of public access to the property.

- Comment 5: If a revised ambient air boundary is used, re-evaluate whether the buildings that were excluded from the BPIP-PRIME input file should be included to assess the effects of building downwash.

- Comment 6: DEQ permitting staff has not reviewed the emission inventory submitted in the modeling protocol for completeness and accuracy. Review will be conducted after the official permit application is received by DEQ.

- Comment 7: The ambient impact analyses may be performed with a single year of 2004 on-site surface meteorological data, provided all other upper air and surface data for the Missoula and Great Falls, Montana stations are also 2004 data. DEQ will not approve the use of any AERMET-processed meteorological data set(s) using data from different years. If this project uses the 2004 on-site surface met data, provide a detailed description of the on-site met data and site, including UTM coordinates and elevation of the met station, and the quality assurance/quality control of the data. Also, submit all intermediary AERMET processing files.

  If you are unable to obtain the data needed to generate a complete AERMOD-ready met file for 2004, which uses, in part, on-site met data, perform the modeling analyses using both 5-year data sets for Idaho Falls/Roberts, Idaho and Paul, Idaho. These are regarded as non-representative met files for the Idaho Cobalt facility's location, and the highest second high values should be used as design concentrations for all pollutants with averaging periods of 24 hours or less. If only one 5-year met data set is used for the modeling analyses, add an additional 20% to the design concentrations to account for the non-representative met data.

DEQ's modeling staff considers the submitted dispersion modeling protocol, with resolution of the additional items noted above, to be approved. It should be noted, however, that the approval of this modeling protocol is not meant to imply approval of a completed dispersion modeling analysis. Please refer to the *State of Idaho Air Quality Modeling Guideline*, which is available on the Internet at http://www.deq.state.id.us/air/permits_forms/permitting/modeling_guideline.pdf, for further guidance. Please submit a revised modeling protocol if you would like DEQ's review and approval prior to submitting the air quality permit application.

To ensure a complete and timely review of the final analysis, our modeling staff requests that electronic copies of all modeling input and output files (including BPIP, raw meteorological data files, AERMAP input and output files, and AERMET input and output files) are submitted with an analysis report if a different dataset than provided to you by DEQ is used for this project. If you have any further questions or comments, please contact me at (208) 373-0536.

Sincerely,

Darrin Mehr

Darrin Mehr
Air Quality Analyst
Idaho Department of Environmental Quality

Attachment 2

Proposed Responses to IDEQ Protocol Approval Comment

ICP Planned Response To IDEQ Modeling Approval Comments

This document indicates the responses Formation Capital Corp. plans to include in the Idaho Cobalt Project (ICP) air permit application in response to Idaho DEQ Modeling Protocol Approval letter comments. **We request IDEQ written concurrence with these proposed responses, or specific recommendations if IDEQ has any concern with the proposed methodologies.**

IDEQ Protocol Approval Comments are listed in Italics, generally shortened here but intended to reflect the entire IDEQ comment in the Protocol Approval letter, and numbered as per the IDEQ letter. The proposed response follows in regular text format

1 Applicant should document and defend stack parameters

There are only two point sources included in the modeling. Stack parameters for both new pieces of equipment are straight from manufacturer's specifications. All model fugitive source model source parameter derivation will also be documented consistent with recent IDEQ precedent.

2 Applicant's responsibility to ensure a receptor network with sufficient detail and resolution

The submittal modeling will include no more than 50 meter grid spacing anywhere on the property boundary within 500 meters of a model emission source or directly downwind from one. Near model sources, the ambient air boundary receptor grid spacing will be no more than 25 meters. The receptor network will include 50 meter grid spacing out to at least 100 meters near every area where boundary grid spacing is 50 meters or less. Because almost all model sources are fugitives, the receptor network will extend out 1 kilometer from the boundary, with increased grid spacing beyond 100m. In the unlikely event the model predicted maximum impact does not occur within the 50 meter grid spacing, a fine receptor network will be added to ensure at least 25 meter grid spacing in the vicinity of the model predicted maximum impact.

3 Provide a complete, scaled plot plan including emission sources and buildings.

There will be a scaled plot plan with the permit application that makes the ambient air boundary, all buildings and emission sources clear. The modeling report will also include a figure showing the same information as gridded in the model, with UTM coordinates.

4 *Describe and Defend the Ambient Air Boundary*

As a result of the pre-application meeting discussion, we will use the ICP claim boundary as the public access and ambient air boundary. Access can be controlled at that

boundary, within which ICP will have approval to operate, mine, and control access around all activity areas. ICP plans to train staff to recognize and discourage unauthorized access. As noted during the discussion and in the modeling protocol, public access is further controlled by locked gates miles down the road and inaccessible terrain at this high elevation location in the mountains.

5 *Reconsider building for downwash if Ambient Air Boundary is used*

All buildings with 5 building dimensions (largest of length, width, or height) will be included in the modeling analysis. That is expected to include only the crusher and concentrator buildings at the mill site.

6 *IDEQ has not yet reviewed the emission inventory, so protocol does not imply emission inventory concurrence*

That is understood. A copy of the June 9, 2008 draft emission inventory was shared with IDEQ project permit analyst Morrie Lewis and modeling representative Darrin Mehr to provide a preview of how we estimated underground emission calculation as promised in the pre-application meeting. That draft EI identifies all model source names and emissions. We have requested IDEQ concurrence on the underground emission calculations and parameterization, and would appreciate and react to any other comments IDEQ might have, with the goal of providing a complete permit application.

7 *Met data file options / requirements; One year onsite with specified NWS surface and upper air run through AERMET, options using 5 years or 10 years of questionably representative IDEQ supplied AERMOD ready met files*

We purchased the recommended 2004 Missoula surface and Great Falls upper air data, and processed the onsite met data through AERMET to be model ready. The modeling submittal will be based upon this 2004 onsite met data file consistent with IDEQ recommendations in the Protocol Approval letter. Complete documentation of the met data processing will be submitted.

Attachment 3

IDEQ Concurrence with Proposed Protocol Comment Responses

RE: Modeling protocol for Idaho Cobalt

From: **Darrin.Mehr@deq.idaho.gov**

Sent: Tue 6/17/08 5:59 PM

To: cjenv@hotmail.com

Cc: Kevin.Schilling@deq.idaho.gov; Morrie.Lewis@deq.idaho.gov; amcfarland@formcap.com

Chris,

I've looked at Idaho Cobalt's email responses to the April 7, 2008 modeling protocol approval letter and have comments on a couple of the responses.

Item 1

1 *Describe and Defend the Ambient Air Boundary*

As a result of the pre-application meeting discussion, we will use the ICP claim boundary as the public access and ambient air boundary. Access can be controlled at that boundary, within which ICP will have approval to operate, mine, and control access around all activity areas. ICP plans to train staff to recognize and discourage unauthorized access. As noted during the discussion and in the modeling protocol, public access is further controlled by locked gates miles down the road and inaccessible terrain at this high elevation location in the mountains.

The protocol states that the Idaho Cobalt Project claim boundary will be used as the ambient air boundary. Please describe the legal basis for legally restricting public access using any legal provisions and/or determinations provided by government regulations and government entities that regulate unpatented mining claims. Based on the initial pre-application meeting with you and Conrad Parrish, Bill Rogers, Morrie Lewis, and myself, it was understood that all of Idaho Cobalt's mining claims will be unpatented mining claims, and that unpatented mining claims are not necessarily viewed as private property, as is the case with patented mining claims.

Consider the following points as a non-exclusive list of relevant topics for your consideration in the ambient air boundary determination:

If the government entity/entities that regulate Idaho Cobalt's land use, ownership/lease rights on these parcels allow for the use of additional gating at any other roadway access point in addition to the Noranda/Blackbird Mine gate, please state if that is Idaho Cobalt's intent to do so to restrict public access.

Would all areas of the unpatented mining claims be under active control by Idaho Cobalt? Considerations include whether active use will occur on all claims considered to be within the ambient air boundary, and whether Idaho Cobalt staff have the capability of direct visual observation of all of these areas. Would Idaho Cobalt post any no trespassing signage at any locations around the ambient air boundary if they have the legal right to exclude public access from the claim areas?

Item 2

The map provided in your June 9th email provides a plot plan depicting the emission sources associated with the proposed project. Please submit a plot plan that shows the entire ambient air boundary with the permit application. Also, it would be helpful to see an overlay of Idaho Cobalt's mining claims on a topographic plot plan of the site.

Please let me know if you have any questions. Morrie and I are looking forward to working with you and Idaho Cobalt in developing their Permit to Construct.

Best Regards,

Darrin

Darrin Mehr

Air Quality Analyst

Monitoring, Modeling & Emissions Inventory

Idaho Department of Environmental Quality

Phone: 208-373-0536

Fax: 208-373-0143

e-mail: Darrin.Mehr@deq.idaho.gov

Attachment 4

BPIP-Prime Run Summary

File ICP.SUM

```
                    BEE-Line Software Version: 9.95

                     Input File - ICP.PRW
                     Input File - ICP.PIP
                    Output File - ICP.TAB
                    Output File - ICP.SUM
                    Output File - ICP.SO


                          BPIP (Dated: 04274)
 DATE : 03/18/2008
 TIME : 05:30:14 PM
 C:\Formation\ICP.BST BEESTWin BPIP-Prime Files 3/18/2008 5:30:13 PM

 ============================
 BPIP PROCESSING INFORMATION:
 ============================

   The P  flag has been set for preparing downwash related data
          for a model run utilizing the PRIME algorithm.

   Inputs entered in METERS     will be converted to meters using
    a conversion factor of    1.0000.  Output will be in meters.

   The UTMP variable is set to UTMY.  The input is assumed to be in
     UTM coordinates.  BPIP will move the UTM origin to the first pair
of
     UTM coordinates read.  The UTM coordinates of the new origin will
     be subtracted from all the other UTM coordinates entered to form
     this new local coordinate system.

   Plant north is set to   0.00 degrees with respect to True North.


 C:\Formation\ICP.BST BEESTWin BPIP-Prime Files 3/18/2008 5:30:13 PM
```

PRELIMINARY* GEP STACK HEIGHT RESULTS TABLE
(Output Units: meters)

Stack Name	Stack Height	Stack-Building Base Elevation Differences	GEP** EQN1	Preliminary* GEP Stack Height Value
DSTCOLSK	10.97	-5.25	36.49	65.00
BKUPGEN	0.91	-0.59	44.02	65.00

* Results are based on Determinants 1 & 2 on pages 1 & 2 of the GEP Technical Support Document. Determinant 3 may be investigated for additional stack height credit. Final values result after Determinant 3 has been taken into consideration.

** Results were derived from Equation 1 on page 6 of GEP Technical Support Document. Values have been adjusted for any stack-building base elevation differences.

Note: Criteria for determining stack heights for modeling emission limitations for a source can be found in Table 3.1 of the GEP Technical Support Document.

BPIP (Dated: 04274)

DATE : 03/18/2008
TIME : 05:30:14 PM

C:\Formation\ICP.BST BEESTWin BPIP-Prime Files 3/18/2008 5:30:13 PM

BPIP output is in meters

```
     SO BUILDHGT DSTCOLSK   12.50   12.50   12.50   12.50   12.50
12.50
     SO BUILDHGT DSTCOLSK   12.50   12.50   12.50   12.50   12.50
12.50
     SO BUILDHGT DSTCOLSK   12.50   12.50   12.50   12.50   12.50
12.50
     SO BUILDHGT DSTCOLSK   12.50   12.50   12.50   12.50   12.50
12.50
     SO BUILDHGT DSTCOLSK   12.50   12.50   12.50   12.50   12.50
12.50
     SO BUILDHGT DSTCOLSK   12.50   12.50   12.50   12.50   12.50
12.50
     SO BUILDWID DSTCOLSK   32.93   26.59   28.98   34.97   39.91
43.63
     SO BUILDWID DSTCOLSK   46.02   47.02   46.58   44.74   41.53
42.88
     SO BUILDWID DSTCOLSK   45.60   46.94   46.85   45.34   42.45
38.27
     SO BUILDWID DSTCOLSK   32.93   26.59   28.98   34.97   39.91
43.63
     SO BUILDWID DSTCOLSK   46.02   47.02   46.58   44.74   41.53
42.88
     SO BUILDWID DSTCOLSK   45.60   46.94   46.85   45.34   42.45
38.27
     SO BUILDLEN DSTCOLSK   44.74   41.53   42.88   45.60   46.94
46.85
```

```
     SO BUILDLEN DSTCOLSK   45.34   42.45   38.27   32.93   26.59
28.98
     SO BUILDLEN DSTCOLSK   34.97   39.91   43.63   46.02   47.02
46.58
     SO BUILDLEN DSTCOLSK   44.74   41.53   42.88   45.60   46.94
46.85
     SO BUILDLEN DSTCOLSK   45.34   42.45   38.27   32.93   26.59
28.98
     SO BUILDLEN DSTCOLSK   34.97   39.91   43.63   46.02   47.02
46.58
     SO XBADJ    DSTCOLSK  -31.69  -33.58  -37.34  -41.32  -44.04  -
45.43
     SO XBADJ    DSTCOLSK  -45.43  -44.06  -41.34  -37.38  -32.27  -
30.95
     SO XBADJ    DSTCOLSK  -30.93  -29.98  -28.11  -25.39  -21.90  -
17.74
     SO XBADJ    DSTCOLSK  -13.04   -7.95   -5.54   -4.29   -2.90   -
1.43
     SO XBADJ    DSTCOLSK    0.09    1.60    3.07    4.44    5.68
1.97

     SO XBADJ    DSTCOLSK   -4.04   -9.93  -15.51  -20.63  -25.12  -
28.84
     SO YBADJ    DSTCOLSK   20.91   18.98   16.46   13.45   10.03
6.30
     SO YBADJ    DSTCOLSK    2.38   -1.61   -5.55   -9.33  -12.82  -
15.90
     SO YBADJ    DSTCOLSK  -18.51  -20.57  -22.00  -22.76  -22.83  -
22.21
     SO YBADJ    DSTCOLSK  -20.91  -18.98  -16.46  -13.45  -10.03   -
6.30
     SO YBADJ    DSTCOLSK   -2.38    1.61    5.55    9.33   12.82
15.90
     SO YBADJ    DSTCOLSK   18.51   20.57   22.00   22.76   22.83
22.21


     SO BUILDHGT BKUPGEN    17.37   17.37   17.37   17.37   17.37
17.37
     SO BUILDHGT BKUPGEN    17.37   17.37   17.37   17.37   17.37
17.37
     SO BUILDHGT BKUPGEN    17.37   17.37   17.37   17.37   17.37
17.37
     SO BUILDHGT BKUPGEN    17.37   17.37   17.37   17.37   17.37
17.37
     SO BUILDHGT BKUPGEN    17.37   17.37   17.37   17.37   17.37
17.37
     SO BUILDHGT BKUPGEN    17.37   17.37   17.37   17.37   17.37
17.37
     SO BUILDWID BKUPGEN    37.78   30.03   33.10   40.43   46.53
51.22
     SO BUILDWID BKUPGEN    54.35   55.83   55.62   53.72   50.18
51.71
     SO BUILDWID BKUPGEN    54.64   55.90   55.47   53.35   49.62
44.37
     SO BUILDWID BKUPGEN    37.78   30.03   33.10   40.43   46.53
51.22
```

```
     SO BUILDWID BKUPGEN    54.35   55.83   55.62   53.72   50.18
51.71
     SO BUILDWID BKUPGEN    54.64   55.90   55.47   53.35   49.62
44.37
     SO BUILDLEN BKUPGEN    53.72   50.18   51.71   54.64   55.90
55.47
     SO BUILDLEN BKUPGEN    53.35   49.62   44.37   37.78   30.03
33.10
     SO BUILDLEN BKUPGEN    40.43   46.53   51.22   54.35   55.83
55.62
     SO BUILDLEN BKUPGEN    53.72   50.18   51.71   54.64   55.90
55.47
     SO BUILDLEN BKUPGEN    53.35   49.62   44.37   37.78   30.03
33.10
     SO BUILDLEN BKUPGEN    40.43   46.53   51.22   54.35   55.83
55.62
     SO XBADJ    BKUPGEN   -57.48  -54.36  -52.88  -51.28  -48.12  -
43.50
     SO XBADJ    BKUPGEN   -37.56  -30.47  -22.46  -13.77   -4.66   -
1.26
     SO XBADJ    BKUPGEN    -0.47    0.34    1.14    1.91    2.61
3.24
     SO XBADJ    BKUPGEN     3.77    4.18    1.18   -3.35   -7.78  -
11.97
     SO XBADJ    BKUPGEN   -15.80  -19.14  -21.91  -24.01  -25.38  -
31.83
     SO XBADJ    BKUPGEN   -39.96  -46.87  -52.36  -56.26  -58.45  -
58.86
     SO YBADJ    BKUPGEN    -5.12  -10.36  -15.29  -19.75  -23.61  -
26.75
     SO YBADJ    BKUPGEN   -29.08  -30.53  -31.05  -30.63  -29.27  -
27.03
     SO YBADJ    BKUPGEN   -23.96  -20.17  -15.77  -10.88   -5.66   -
0.28
     SO YBADJ    BKUPGEN     5.12   10.36   15.29   19.75   23.61
26.75
     SO YBADJ    BKUPGEN    29.08   30.53   31.05   30.63   29.27
27.03
     SO YBADJ    BKUPGEN    23.96   20.17   15.77   10.88    5.66
0.28
```

Attachment 5

Meteorological Data Collection, Q/A, and Preparation

The meteorological monitoring site is located at R18E T21N NE 1/4 of SW 1/4 of Sec. 21, elevation 8,100 feet above sea level (local mine grid location coordinates are: X=3104.9374, y=18852.00669, z=7975). The parameters monitored include wind speed, wind direction, wind sigma, temperature, precipitation, and evaporation.

The location of the monitoring station is indicated on the plot plan being resubmitted. The main project activity, the crushing operations and concentrating mill, is proposed on Big Flat atop a knoll that represents the high point in the area, with mine portals at slightly lower elevations in the near vicinity, and along roads between the portals and mill area. The proximity of the monitoring station to the project site, also atop the knoll near the high point in the vicinity, shows that the monitoring station conditions are representative of conditions where emissions are released.

The equipment used for meteorological data collection is:

- Met One 014A = Wind Speed
- Met One 024A = Wind Direction
- Met One 207 = Temp and RH (relative humidity)
- Precipitation Gauge
- CR10 data logger

The equipment was installed by Jim Gelhaus in 2000. A picture of the 10 meter tower and monitoring equipment is included in electronic form on the submittal CD-ROM. It has been continually maintained by Mr. Gelhaus and more recently Kevin Walsh of Environmental Consulting Services (ECS), and is audited by a third-party consultant semi-annually. EPA and State of Idaho quality assurance procedures were followed on all data collection. A copy of the most recent audit is included at the end of this section. The dates of semi-annual audits include: 12/1/2000, 4/30 and 10/31/2001, 5/15 and 7/23/2002, 5/21 and 10/22/2003, 5/15 and 10/15/2004, 7/22 and unverified fall date/2005, 6/27 and 10/13/2006, 4/12 and 10/4/2007, and 4/18/2008.

The meteorological system data logger calculates sigma theta for stability determinations. The meteorological data processing is documented on the Weather_DataQA worksheet included in the electronic files submitted on CD. That spreadsheet also documents mean wind speeds, length of freezing season, and other data supporting this permit application.

The onsite 2004 meteorological data was processed through AERMET using albedo, Bowen Ratio, and surface ratio from Tables 4-1, 4-2 and 4-3 in the AERMET Users Guide for coniferous forests (with average moisture for Bowen ratio). Actual mapping information was used for the onsite data. NWS 2004 surface data from Missoula and upper air data from Great Falls data recommended by IDEQ and purchased from NCDC

was used in AERMET to generate the ICP04 modeling files submitted. Every AERMET data entry is documented in the electronic submittal by including the input and output files for all three stages of AERMET.

ECS

Environmental Consulting Services, LLP

320 Eastlake Circle
Billings, MT 59105
http://www.enviroconsult.com

Phone: (406) 254-1741
Fax: (406) 254-1742
Email: ecsinfo@enviroconsult.com

April 21, 2008

Via Email to: jhamilton@formcap.com
(No Hardcopy to follow)

Mr. Jerry Hamilton
Formation Capital Corp.
812 Shoup Street
Salmon, ID 83467

SUBJECT: Results of recent Meteorological (Met) Audit at the Formation Capital Corp. (FCC) weather station.

Dear Jerry:

Environmental Consulting Services, LLP (ECS) is pleased to present results of recent Meteorological (Met) Audit at the Formation Capital Corp. (FCC) weather station. For a copy of the field sheet please see the attachment. All Met sensors passed the audit and were performing satisfactory. The Met tower was found to be slightly off plumb and we recommend that this condition be corrected in the near future. You had also asked for the manual input instructions for the Met program, in the instance that the program would be lost (such as when changing out the battery). See the attached instruction sheet. As always, should you have any questions please contact me.

Respectfully submitted,
ENVIRONMENTAL CONSULTING SERVICES, LLP

Kevin K. Walsh
Partner/Consultant
KKW/jlw

Attachments

Formation Capital Corp.
CR10 Met Station Program Instructions

According to notes from Jim Gelhaus input channels 2 and 3 on the CR10 are bad, and therefore only input channel 1 is available. Should there be any future problems with input channel 1 on the CR10 then this unit would have to be sent into the factory for repair and/or replacement.

Met Sensors:
Met One 014A = Wind Speed
Met One 024A = Wind Direction
Met One 207 = Temp and RH (relative humidity)
Precip Gauge

Wiring Diagram:

014A	Black to P1
	White to AG (analog ground)
	Clear to G (ground)
024A	Red to 3H
	White to AG
	Black to E2
	Clear to G
207	Red to 1H
	Black to E1
	Purple to AG
	Clear to G
Precip	Black to E3
	White to AG
	Clear to 2L

CR10 Keyboard Program:
01 = Temp in °C
02 = W/S (wind speed in mph)
03 = W/D (wind direction in degrees)
04 = Precip
05 = Battery Voltage

Program Instructions:
Plug in keyboard and enter *0. If no program exists the display will show LO6, if a program exists the display will show LO61. Perform each input step as show below, when entering a D from the keyboard this will enter a decimal into the program. As you enter the steps of the program input the keyboard will show each step number on the left-hand side, such as 01:01 when entering 01 as step 1, ignore the digits to the left of the colon on the keyboard as you enter the program. When you have finished entering all of the steps of the program and you have compiled the program into the CR10 by entering *0, then you can go to the readout channels to view the instantaneous data from the sensors (to view instantaneous data enter *6 on the keyboard). When finished viewing instantaneous data enter *0 to go back to LO61, which is the logging portion of the program.

Begin Program by Entering *1A (this instruction begins compiling the program)
1A
3A
1A
2A
12A
2A
D8A
D447
4A
1A
15A
5A
2A
5A
900A
3A

D787A
0A
10A
5A
11A
1A
1A
1A
1A
1A
0A
4A
1A
5A
4A
3A
5A
2500A
4A
D0048A
0A
30A
1A
0A
6A
92A
0A
60A
10A
80A
1A
25A
77A
110A
71A
2A
1A
76A
1A
30A
6A
3A
74A
1A
0A
4A
*0 (End Program)

ECS

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Email: ecsinfo@enviroconsult.com

METEOROLOGICAL AUDIT REPORT FORM

Client: Formation Capital Corp. Date: 4/18/08

Location: ICP Site

	Audit Value	Station Value	Difference
Wind Direction - Point #1 (degrees)	180°	178.2°	-1.8°
Wind Direction - Point #2 (degrees)	270°	269.3°	-0.7°
Wind Direction - Point #3 (degrees)	360°	359.7°	-0.3°
Wind Direction - Point #4 (degrees)	90°	87.1°	-2.9°
3000RPM → Wind Speed - Speed #1 (m/s or (mph))	18.892	18.9	-0-
6000RPM → Wind Speed - Speed #2 (m/s or (mph))	36.785	36.8	-0-

Wind Direction Instrument Type (S/N): Met One 024A

Wind Speed Instrument Type (S/N): " " 014A

MDEQ Tolerance Limits
(as measured as an "Artificial Field")

Wind Direction:	±5 degrees
Wind Speed:	±0.5 meters per second (m/s) or miles per hour (mph)

Other observations/comments: Temp Audit Station value = 4.0°C
Audit value = 4.0°C

Appendix F

Permit Application Supporting Documents

Attachment 1

IDEQ Pre-Permit Construction Application Checklist

COMPLETENESS DETERMINATION CHECKLIST

Company Name Formation Capital Corp.

Location Salmon Idaho

Project Idaho Cobalt Project 15-Day Pre-Construction Approval PTC Application

Reviewer Chris Johnson **Date** 6-20-2008

IDEQ 15-Day Pre-Permit Construction Approval Application Completeness Checklist, and Documentation of the ICP application's compliance assuring a complete application

By meeting those completeness requirements, the application also meets all requirements on the IDEQ Minor Source Permit To Construct Application Completeness Checklist, which are duplicative.

	I. Actions Needed Before Submitting Application	(YES / NO)
y	Refer to the Rule. Read the Pre-Permit Construction requirements contained in IDAPA 58.01.01.213.	
	PTC Requirements in IDAPA 58.01.01.200-228 have been reviewed, and followed in this PTC application.	
y	Refer to DEQ's Pre-Permit Construction Approval Guidance Document. DEQ has developed a guidance document to aid applicants in submitting a complete pre-permit construction approval application.	
	The IDEQ Pre-Permit Construction Approval Guidance Document was used as a reference for developing the permit application. The application structure exactly matches the recommendation in that document. This document verifies that everything necessary for a complete application is included and locatable.	
y	Consult with DEQ Representatives. Schedule a meeting with DEQ to discuss application requirements before submitting the pre-permit construction approval application. The meeting can be in person or on the phone. Contact DEQ's Air Quality Permit Coordinator at (208) 373-0502 to schedule the meeting.	
	We held a pre-application meeting at IDEQ on April 7, 2008. We followed up that discussion by working with IDEQ Permit Engineer Morrie Lewis and Modeling Representative Darrin Mehr to verify their recommendations on details for multiple application components to ensure application completeness and ease of review. We also ran by methodology proposed to address IDEQ comments on the initial submittal and received IDEQ concurrence that those methods would address the noted concerns.	
y	Schedule Informational Meeting. Schedule an informational meeting before submitting the pre-permit construction approval application for the purposes of satisfying IDAPA 58.01.01.213.02.a. The purpose for	

the informational meeting is to provide information about the proposed project to the general public. Refer to IDAPA 58.01.01.213.01.c.

We drew up plans to announce and hold the Informational meeting well in advance of the permit application. The copy of the Affidavit of Publication and the announcement in the July 10th and July 17th Recorder Herald in Salmon, Idaho in Appendix C documents the scheduled July 21 informational meeting All meeting plans and documentation are designed to meet IDAPA 58.01.01.213 requirements.

y Submit Ambient Air Quality Modeling Protocol. It is recommended that an ambient air quality modeling protocol be submitted to DEQ at least two (2) weeks before the pre-permit construction approval application is submitted.

y Written DEQ Approved Protocol. Written DEQ approval of the modeling protocol must be received before the pre-permit construction approval application is submitted. Refer to IDAPA 58.01.01.213.01.c.

We submitted a Modeling Protocol in March of 2008, and received IDEQ written approval for our modeling protocol before the April 7, 2008 pre-application meeting. Copies of the Protocol and IDEQ's written approval are included in Appendix B of the air quality modeling report in Section 6 of the application. We also documented our plans to respond to IDEQ comments in the protocol approval, and received IDEQ concurrence for those recommendations

II. Application Content

Application content should be prepared using the checklist below. The checklist is based on the requirements contained in IDAPA 58.01.01.213 and DEQ's Pre-Permit Construction Approval Guidance Document.

y Pre-Permit Construction Eligibility and Proof of Eligibility. Pre-permit construction approval is available for minor sources and for minor modifications only. Emissions netting and emissions offsets are not allowed to be used. A certified proof of pre-permit construction eligibility must be submitted with the pre-permit construction approval application. Refer to IDAPA 58.01.01.213.01.

The facility Emission Inventory, in Tables 5-1 and 5-2 and in more detail in Appendix D, shows that facility-wide emissions are well below the 250 ton per year criteria pollutant major source category for this non-designated facility, and below the 100 ton per year threshold for Title V major sources. Facility HAP emissions are minimal, and do not approach the HAP major source threshold of 25 tons/yr. Therefore, this proposed action is a minor modification to a minor source. As such, the facility is eligible for the Pre-Permit Construction process being requested here.

y Request to Construct Before Obtaining a Permit to Construct. A letter requesting the ability to construct before obtaining the required permit to construct must be submitted with the pre-permit construction approval application. Refer to IDAPA 58.01.01.213.01.c.

The facility's request for Pre-Permit Construction approval is clearly stated in the subject line and first paragraph of the cover letter accompanying this application, and in the introduction to the application before Section 1.

y Apply for a Permit to Construct. Submit a Permit to Construct application using forms available on DEQ's website

The main text of this application meets those requirements.

y Permit to Construct Application Fee. The permit to construct application fee must be submitted at the time the original pre-permit construction approval application is submitted. Refer to IDAPA 58.01.01.224.

The $1000 application fee enclosed with the original application remains valid for resubmittal through Friday, September 12 according to written communication from IDEQ permit writer Morrei Lewis. Appendix C includes a copy of the check.

y Notice of Informational Meeting. Within ten (10) days after the submittal of the pre-permit construction approval application, an information meeting must be held in at least one location in the region where the stationary source will be located. The information meeting must be made known by notice published at least ten (10) days before the information meeting in a newspaper of general circulation in the county in which the stationary source will be located. A copy of this notice, as published, must be submitted with the pre-permit construction approval application. Refer to IDAPA 58.01.01.213.02.a.

As mentioned above, a copy of the announcement in the July 10th and July 17th 2008 Recorder Herald in Appendix C documents the scheduled July 21 Informational meeting.

y Process Description(s). The process or processes for which pre-permit construction approval is requested must be described in sufficient detail and clarity such that a member of the general public not familiar with air quality can clearly understand the proposed project. A process flow diagram is required for each process for which pre-permit construction approval is requested. Refer to IDAPA 58.01.01.213.01.c.

See Section 1 of the application for the process description.

A brief summary of the process(es) proposed: The proposed action consists of an underground mine with occasional blasting, loaders and trucks to transport ore, a tram hopper bin and tram to transport or to the crusher building, ore and waste rock stockpiles at the crusher building, loaders feeding the crusher building feed hopper, crushing and screening operations in an enclosed building vented through a baghouse, an enclosed conveyor transporting fine ore to a bin whose only vent is filtered, enclosed ore transport into a concentrator building where the ore is wetted, transport of refined ore offsite, a small pile of wet tailings outside the concentrator building that is cleared daily, a cement silo with a baghouse as the only vent and fully enclosed transfer to the concentrator building, loaders filling trucks with waste rock and tailings, transport of those materials to the Tailings and Waste Storage Facility where they're dumped, compacted, and revegetated, and a topsoil stockpile intermittently active and otherwise revegetated.

y Equipment List. All equipment that will be used for which pre-permit construction approval is requested must be described in detail. Such description includes, but is not limited to, manufacturer, model number or other descriptor, serial number, maximum process rate, proposed process rate, maximum heat input capacity, stack height, stack diameter, stack gas flow rate, stack gas temperature, etc. All equipment that will be used for which pre-permit construction approval is requested must be clearly labeled on the process flow diagram. Refer to IDAPA 58.01.01.213.01.c.

The vast majority of the proposed equipment to be constructed would involve only well controlled fugitive particulate emissions. The only non-fugitive sources proposed are an emergency generator and a Crusher building baghouse. Two bins with filtered vents, one for fine ore going into the concentrator and one for cement, are identified as area sources. The equipment proposed is discussed in the detailed process descriptions in Section 1, and documented in the IDEQ EU forms in Appendix A and in the facility emission inventory in Appendix D. Appendix B provides a detailed equipment list.

y Scaled Plot Plan. It is recommended that a scaled plot plan be included in the pre-permit construction approval application and must clearly label the location of each proposed process and the equipment that will be used in the process.

Section 6 includes a scaled plot plan. Figures in the Modeling Report in Section 7 show the facility location on a USGS topographic map, and the model sources and claim boundary on UTM coordinates. The initial figure in the Process Flow Diagram in Section 2 also includes the location of all facility activity locations on a topographic map.

y Proposed Emissions Limits and Modeled Ambient Concentration for All Regulated Air Pollutants. All proposed emission limits and modeled ambient concentrations for all regulated air pollutants must demonstrate compliance with all applicable air quality rules and regulations. Regulated air pollutants include criteria air pollutants (PM_{10}, SO_x, NO_2, O_3, CO, lead), toxic air pollutants listed pursuant to IDAPA 58.01.01.585 and 586, and hazardous air pollutants listed pursuant to Section 112 of the 1990 Clean Air Act Amendments (go to http://www.epa.gov/ttn/atw/188polls.html). Describe in detail how the proposed emissions limits and modeled ambient concentrations demonstrate compliance with each applicable air quality rule and regulation. It is requested that emissions calculations, assumptions, and documentation be submitted with sufficient detail so DEQ can verify the validity of the emissions estimates. Refer to IDAPA 58.01.01.213.01.c.

Section 7 of this application provides the air quality modeling report, which was prepared consistent with the IDEQ-approved Modeling Protocol. The facility emission inventory is based upon equipment capacity. No permit limits are proposed Documentation in Appendix D documents process considerations that limit throughput to levels below those proposed in the emission inventory.

y Restrictions on Source's Potential To Emit

Documentation in Appendix D documents process considerations that limit throughput to levels below those proposed in the emission inventory. No additional restrictions are proposed, except for the emergency generator meeting IDAPA requirements for emergency use of less than 500 hours per year.

y List all Applicable Requirements. All applicable requirements must be cited by the rule or regulation section/subpart that applies for each emissions unit. Refer to IDAPA 58.01.01.213.01.c.

Section 3 documents all applicable regulatory requirements, and compliance of the proposed action.

y Certification of Pre-Permit Construction Approval Application. The pre-permit construction approval application must be signed by the Responsible Official and must contain a certification signed by the Responsible Official. The certification must state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Refer to IDAPA 58.01.01.213.01.d and IDAPA 58.01.01.123.

The required certifications are included on Form GI in Appendix A of this application.

y Submit the Pre-Construction Approval Application. Submit the pre-permit construction approval application to the following address:

Air Quality Program Office – Application Processing
Department of Environmental Quality
1410 North Hilton
Boise, ID 83706-1255

Attachment 2

Responses to Incompleteness Issues IDEQ Raised On the Original ICP Permit Application and Cross-Reference to Resolution

Responses to Incompleteness Issues IDEQ Raised On the Original ICP Permit Application and Cross-Reference to Resolution

1. Ambient Air Quality Impact Analysis – Ambient Air Boundary. Describe the legal basis for the restriction of public access across the unpatented mining claims or portions of the claims. Cite regulations and/or provisions which grant the permittee the authority to restrict public access. Documentation is necessary to establish whether the ambient air boundary proposed and used in the ambient air quality impact analysis can be enforced by the permittee.

The application states that, "the ambient air boundaries for this project are based only upon the areas within those claims where ICP can and will control public access." This statement is not considered adequate documentation or justification of the legal authority of ICP to restrict public access to those areas inside the proposed ambient air boundary. E-mail communication dated June 17, 2008, from Darrin Mehr, DEQ, to Chris Johnson, ICP consultant, previously requested this information: "DEQ would like Idaho Cobalt to provide the specific documentation that they are using to establish the legal control of the ambient air boundary. That means we would like the application to include a copy of this permit (US Forest Service permit) and any other relevant documentation on this issue." The application does not include the information requested.

DEQ requests the following items:

- Thorough description of the legal framework authorizing ICP to restrict public access for all areas inside the claimed ambient air boundary.
- Justification of the extent of areas excluded from public access.
- For areas where ICP has the legal authority to restrict access, demonstration of how access will be practically prevented. Such measures could include posting, patrolling, or fencing. Land features such as streams, steep slopes, or heavily wooded hillsides are not considered adequate measures to prevent public access. Outdoor enthusiasts routinely cross such barriers while enjoying activities such as hunting, fishing, hiking, photography, etc.

Text under the Ambient Air Boundary / Receptor Network / Model Domain header in Section 7 of the application, the Modeling Report, documents methods planned to meet our requirement in the USFS Record Of Decision (ROD) authorizing our use of the claim for the ICP project to control access to the site, and their implications for the project's conservatively chosen ambient air boundary.

2. Ambient Air Quality Impact Analysis – Meteorological Data. The modeling analyses were not performed using DEQ-supplied meteorological data; therefore, a thorough summary of the meteorological preprocessing should be provided in the application. This should include a detailed discussion of the following:

- Detailed description of the meteorological monitoring site, equipment, and parameters measured.
- Demonstration that the conditions at the onsite location are reasonably representative of conditions where emissions are released.
- Detailed description of quality assurance/control measures used for equipment and handling/processing of data.
- Description of how surface characteristics were determined for processing through AERMET. Submitted AERMET input files and AERMET generated files, by themselves, are not considered adequate documentation for pre-permit construction approval.

Text under the Ambient Air Boundary / Receptor Network / Model Domain header in Section 7 of the application, the Modeling Report introduces the meteorological data used and its derivation. Supporting detail under Attachment 5 in Appendix E, titled Meteorological Data Collection, Q/A, and Preparation, provides the documentation behind the meteorological data collection, Q/A, and data processing

3. Ambient Air Quality Impact Analysis – Dispersion Coefficients. Calculations for determining initial horizontal and vertical dispersion coefficients for area and volume sources should be provided for DEQ verification. A general description of the calculation is not considered adequate.

The derivation of the model source parameters was documented in the emission inventory in the original submission, in blue ink. That documentation has been enhanced in this resubmittal. It is located in the emission inventory in Attachment 1, Appendix D, in blue print, and can also be found in the electronic copy of the emission inventory on the submittal CD.

4. Plot Plan. Considering the complexity of establishing the ambient air boundary, the application should include a detailed plot plan which clearly shows the terrain, vegetation cover, and the complete extent of the ambient air boundary. In addition, the Introduction section of the application indicates that the project will occur on unpatented mining claims, and the Project Location section indicates that the property consists of 145 patented mining claims. Please clarify this apparent discrepancy. Explain the difference between unpatented and patented claims with regard to the legal ability to restrict public access to the site.

All project claims are unpatented. The single incorrect reference in the original permit application to patented claims was corrected to read unpatented in this application. The USFS Record of Decision (ROD) dated June 12, 2008, to approve a modified Plan of Operations to mine requires Formation Capital Corporation, U.S. to

"control public access to mine areas". That documentation firmly supports the ambient air boundary discussed under item #1.

5. List all Applicable Air Quality Rules and Regulations – NSPS Subpart LL. The process description indicates that the following affected facilities will be present as part of a mineral processing plant: a crusher, a screen, conveyor belt transfer points, storage bins, enclosed storage areas, truck loading stations, and truck unloading stations. Please identify which emission sources are applicable to 40 CFR 60 Subpart LL – Standards of Performance for Metallic Mineral Processing Plants, and submit a revised Form FRA. Affected facilities may include emission sources EP201, 301-303, 401-404, 501-503, 601-602, 604, 1102, 1201, 1301-1304, 1401-1402, 1501-1502, 1701-1702, and/or 2001.

The applicability of this NSPS and compliance with it at all applicable project processes is documented in Section 3.0, Applicable Regulations, after the IDAAP Regulations table.

6. List all Applicable Air Quality Rules and Regulations – NSPS Subpart IIII. Form EU0 indicates that the date of construction of the Standby Generator (EP101) is August 2008. Please address whether this stationary compression ignition internal combustion engine (CI ICE) is applicable to 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, and submit a revised Form FRA. Additional information, including fuel type and consumption, stack parameters, and supporting manufacturer's specification sheets, should also be included (Form EU1).

The applicability of this NSPS and compliance with it at all applicable project processes is documented in Section 3.0, Applicable Regulations, after the IDAAP Regulations table.

7. Potential to Emit – HAP and TAP. It was stated that no emissions of cobalt or cobalt based toxic air pollutants (TAP) will occur. Any potential hazardous air pollutant (HAP) or TAP emissions related to the processing or handling of ore or concentrated ore should be included in the emissions inventory, which may include any or all of the following metallic compounds: aluminum, antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, molybdenum, nickel, selenium, silver, tungsten, uranium, zinc, and zirconium. Supporting calculations and documentation should be provided, such as the ore grade and mill head grade for each HAP or TAP compound in the ore. In the case of HAP or TAP categories (e.g. cobalt compounds), an attempt to evaluate compounds in terms of the regulated compound should be made (e.g. cobaltite or cobalt sulfide in terms of cobalt).

As described in Section 4.0, the emission inventory in Attachment 1, Appendix D, and in electronic form on the accompanying CD-ROM, show very conservative calculations assuming the assay % by weight of elements or materials in the ICP ore and by-products represents the same % by weight in all material handling particulate emissions. We clearly show ICP would not approach the HAP major source threshold, and would only potentially reach the IDAPA 585 or 586 EL emission threshold for two TAPs (Cobalt and Arsenic). Section 4.0 includes a demonstration of T-RACT for the 586 HAP arsenic. Section 7.0 documents that potential ambient impacts for the two identified TAPs would not reach applicable IDAPA AAC or AACC impact limits (with T-RACT for arsenic).

8. Restrictions on Source's Potential to Emit. Production limits were not requested for mining operations, however documentation was not provided to demonstrate that emissions will be limited based upon the intrinsic physical or operational design of the equipment. Supporting manufacturer's specification sheets specifying the rated capacity of equipment should be provided, specifically in the case of equipment serving to limit overall process throughput (such as the manufacturer's specification sheet for the primary crusher). Limits on throughput or operating hours or performance testing will be required if supporting information cannot be provided.

Section 4.0 documents that the project construction engineers, MTB, verify the process limiting overall facility capacity is the ball mill. The ball mill can process ore at the maximum rate of 1000.8 short tons per day. The capacity of the equipment is only 93.8% of the 1067 ton per day process throughput rate used in our for conservative 24 hour and annual emission inventory calculations and model source data preparation. A copy of the letter supporting facility throughput limits is included in Appendix D.

Attachment 3

IDEQ Response to T-RACT Demonstration

Preston Rufe

From: Morrie.Lewis@deq.idaho.gov
Sent: Tuesday, October 28, 2008 8:49 AM
To: prufe@formcap.com
Subject: RE: T-RACT

Preston,

The analysis appears to include sufficient documentation to support the proposed T-RACT and to meet the requirements of IDAPA 58.01.01.210.14.

Thank you for providing a comparison of the base case to the alternate control method (enclosure case) and for including information regarding the economic feasibility of the options. Please let me know if you have any additional questions, comments, or concerns.

Best regards,

Morrie Lewis
Air Quality Permit Analyst
Idaho Department of Environmental Quality
1410 North Hilton Street
Boise, Idaho 83706-1255
Phone: (208) 373-0495 Fax: (208) 373-0340
Morrie.Lewis@deq.idaho.gov

From: Preston Rufe [mailto:prufe@formcap.com]
Sent: Thursday, October 23, 2008 11:49 AM
To: Morrie Lewis
Subject: T-RACT

Morrie,

Good morning. Attached to this message is the justification I intend to resubmit to you for our T-RACT analysis for the Idaho Cobalt Project. Also attached is the technical memorandum that is the source of the alternative case cost estimate ("structures memo.pdf").

Could you please take a look at the write up and let me know if you meets the requirements you need to justify T-RACT? I think we did a thorough job of evaluating the alternative, but would appreciate your feedback before I resubmit.

The entire write up is only a few pages so it shouldn't take much of your time.

I appreciate your assistance.

Thank you,
Preston

Preston F. Rufe, P.E.
Environmental Manager

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Salmon, Idaho 83467

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